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Chippewa NATIONAL FOREST



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE



Through virgin white and red pine on a Forest Service truck trail.

F-401075

LAND OF MANY VALUES

MAY

THE CHIPPEWA NATIONAL FOREST lies in the land of Hiawatha in the old Northwest Territory, a region rich in forests, game, and fish. For possession of the area, two great Indian tribes fought a long and bitter war, and the national forest is named for the victorious tribe which forced the vanquished Sioux south and west. It is Indian country still, with many descendants of the Chippewas living within it and with many of its lakes and rivers bearing picturesque and meaning-packed Indian names. Explored by the French and taken from them by the English, the Territory became part of the United States at the close of the Revolutionary War.

Rich in story, the Chippewa is even richer in the values it offers to vacationists who seek rest and recreation beneath its mighty trees and beside its pine-fringed lakes. The promise of deer, duck, and fish in abundance lures thousands of recreationists year after year to try their luck with camera, gun, or reel. Hundreds of lakes afford delightful swimming. Campgrounds and resorts are scattered throughout the forest, and scenic highways and Forest Service trails provide pleasant travel.

Despite its beauty, the Chippewa is more than a show place. Its stands of timber are managed by the Forest Service to supply work for local people and wood to industry. They are cut selectively on a sustained-yield basis so they need never be exhausted.

You who have come here and you who are coming can do more than enjoy this great, green playground. You can help preserve it by being careful with fire in the woods.

The Chippewa is your forest. Its fires are your loss, its productivity your gain.

WHERE TO GO

Supervisor's headquarters at Cass Lake, a three-story structure of pine logs with 180-ton matched stone fireplace. Here you can get first-hand information about the forest.

Cass Lake Fire Lookout Tower, a 110-foot tower of California redwood.

Lydick Tree Nursery at Cass Lake, established in 1933, one of the largest coniferous nurseries in the United States, covering 70 acres and growing about 26,000,000 seedlings each year.

Cass Lake Nursery and seed extractory, one of the three newest and largest forest seed extractories in the United States.

Indian Museum at Cass Lake, treasure-house of Indian relics and history.

Star Island in Cass Lake, 1,000 acres of wild beauty surrounding tree-framed Windigo, a lake within a lake; accessible only by boat; launches leave on schedule from a public boat landing.

Norway Beach, campground in virgin timber on the east shore of Cass Lake, 4 miles from town; excellent sandy beach and large community house constructed of logs from the Chippewa.

Willow Lake Campground, camp and picnic ground on State Route 6, 9 miles northeast of Remer.

Seelye Point Recreational Area, camp and picnic ground on the Cut Foot Sioux District with a commanding view of Cut Foot Sioux Lake.

Avenue of Pines, a mile-and-a-half drive through 50-year-old red and jack pine, on the Cut Foot Sioux District.

Ruby Lake organization camp near Marcell, modern camp available for rent to various groups.

Walker Fire Lookout Tower, 100-foot steel stairway tower in the town of Walker, with excellent view of Leech Lake and its islands and the Onigum Indian settlement.

Stokes Fire Lookout Tower, 4½ miles north of Marcell.

Shingobee Winter Sports Area, 5 miles southwest of Walker.

Turtle Mound along the old Portage Trail on the Cut Foot Sioux District, built by the Sioux when they drove the Chippewas into the north, and turned to face south by the Chippewas when they returned to drive the Sioux back into the plains.

Ranger stations, picturesque log buildings at Marcell and Dora Lake, and completely modern stations at Remer, Cut Foot Sioux, and Blackduck.

Any or all of the CCC camps on the forest, where forest officers will explain the operations of a modern work camp.

Water control and waterfowl dams, flooding marsh areas for fire protection and providing bird refuges for the Chippewa's winged residents. Lists of these dams and the camp and picnic grounds are given at the back of this booklet.

THE FOREST OF YESTERDAY

The Chippewa National Forest occupies a unique place not only in the history of forestry but also in the history of the United States. Situated on the headwaters of the great Mississippi, it felt the tread of empire even before American settlers pushed their way across the Appalachians.



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Norway Beach, Cass Lake, where giant red pines tower above a popular playground.

French fur-traders were in the region as early as 1731. With the removal of French restrictions on the trade when England came into possession of the region in 1763, the fur traffic boomed, and the Hudson's Bay and Northwest fur companies competed for the trade.

British traders remained in northern Minnesota until after the War of 1812, when a law was passed by Congress prohibiting foreign traders from operating within United States territory. Much of their trade was then taken over by the American Fur Co., organized in 1808 by John Jacob Astor.

The activities of British traders and their relations with the Indians were to some extent responsible for early American explorations in northern Minnesota. In 1805 Lt. Zebulon Pike, for whom Pike's Peak is named, conducted an expedition to the upper Mississippi to make treaties with the Indians and secure conformity to the laws of the United States on the part of agents of the Northwest Fur Co. In spite of assurances given by both traders and Indians, in the War of 1812 not only the British but most of the French traders and the Indians supported England.

After the war the chief aim of explorers in this region was to determine the source of the Mississippi. Cass Lake is named for Gov. Lewis Cass of the Michigan Territory, who conducted such an expedition in 1820. Henry R. Schoolcraft, a member of this party, discovered the source of the Father of Waters in Lake Itasca.

When white men first penetrated the American wilds, Leech Lake was a stronghold of the Dakota or Sioux Indians. Encroaching upon their territory, however, came the Ojibways or Chippewas. In 1746 the chief village of the Dakotas fell into their hands, and the Dakotas were driven from their homes on Cass Lake and Winnibigoshish. Clinging to their Leech Lake hunting grounds, they made a final and unsuccessful effort to drive off the Chippewas in 1748.

In the early days the Chippewa tribe had title to a vast area of forest land within the present national forest. Through a series of treaties, each Indian was allotted 80 acres of land and the remainder was ceded to the Government to be disposed of for the benefit of its Indian wards. Cruisers were sent out to estimate the timber, but they knew little about this work, and it was necessary to have it done over by more competent men. The work was finished in 1898 and the sale of timber set for March 1899.

As it was apparent there would be some delay in completing the sale of the timber, Congress passed an act permitting the logging of dead and down timber for salvage purposes. Under this authority a considerable volume of timber was cut and removed, some of it prime, green timber. Seeking to protect the rights of the Indians, an agent named Walker violently protested against the sale of timber at the low prices prevailing under this law, and his efforts resulted ultimately in the establishment of the Minnesota National Forest.

An act of Congress in 1902 provided that the Indians should be paid for the reserved volume of pine timber and land and that, on consummation of this work, a forest reserve should be established. The area was proclaimed the Minnesota National Forest by President Theodore Roosevelt June 23, 1908. By an Executive order of June 22, 1928, the name was changed to the Chippewa.

Up to the time the national forest was created, the history of the white man on the Chippewa was a history of taking—first its furs, next its timber. The first great inroads into its timber resources came with the exhaustion of the eastern woodlands, and the building of railroads into northern Minnesota. Fires followed the heavy cutting with deadly certainty, and the outer portions of the Chippewa, acquired in recent years, show the toll

taken by this greatest enemy of the forest. Upon these areas the job of the Chippewa is to rebuild and replant.

In the practice of forestry, man still takes the wealth of the woodlands, but he gives something in return—scientific care. Each section of the forest is used for the purpose to which it is best suited, but the forest is given a chance to renew itself, and no more timber is cut each year than can be replaced by annual growth.

The history of the Chippewa in recent years is a story of wise use—the story of conservation.

USES OF THE CHIPPEWA

A forest serves many purposes beside the obvious and very important one of providing lumber and fuel. It holds soil in place, preventing the erosion of land and the silting of river beds. It makes possible the gradual, steady absorption of rain, helping to maintain rivers and streams. It provides recreation for thousands of people, renewing their courage and strength



F-401035

Loading logs with home-made power jammer.

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F-392453

Cutting railroad ties means employment.



F-401067

Making logs into lumber keeps the sawmills going.



F-401051

Workers loading jack pine pulpwood from national-forest sales for transportation to the mill.

through holidays in the great outdoors. It is the source of work and livelihood for farm and townspeople within its boundaries.

The essence of land-use planning, upon which the administration of the Chippewa National Forest is based, is putting each section or type of land to its best use.

No other national forest has more varied use than the Chippewa. Its supplies of timber are located close to market, and the large majority of its timber sales are made to local people and small operators. They buy it on the stump, cut it according to Forest Service standards, and sell it at a profit.

The Chippewa has about 40,000 acres of hay meadows, and permits are granted to local people to cut the hay.

In farm communities cultivation and pasture are permitted on certain Government lands to supplement the small holdings of individual farmers.

Gravel pits acquired in the purchase of forest lands are made available to towns and counties for road construction.

Farmers may acquire fuelwood, fence posts, and dead and down sawlog material by permit.

Permits are issued for electric lines and right-of-way privileges along



F-392450

Checking and scaling ties and sawlog material cut from a Chippewa timber sales area.

Forest Service roads, and the Rural Electrification Administration has brought the conveniences of electricity to many farm families on the forest.

Other permits include those for tapping maple trees and for cutting Christmas trees and cedar and balsam branches.

RETURNS TO COUNTIES

Twenty-five percent of national-forest income is returned to the counties in which the forest is located, in the case of the Chippewa to Itasca, Beltrami, and Cass Counties. An additional 10 percent is set aside for the construction of roads by the Forest Service within these counties.

FOREST-FARM COMMUNITIES

In addition to the areas set aside for timber production, recreational purposes, and wildlife propagation and protection, 15 areas on the Chippewa have been designated forest-farm areas because of the agricultural possibilities of the soil and because of their location in relation to schools, roads, and stores. Within these areas the Federal Government owns certain

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Previous to a land exchange, this settler was located 12 miles from town and 4 miles from a road which was kept open in winter. His new location is on a main highway, less than a mile from a good town. The house was moved intact, the barn in sections.



F- 389137

Permission is granted for public school sites within the forest area.



F-388301

Old fields in Government ownership are cultivated under permit.

tracts of land suited to agriculture. These are reserved for the purpose of relocating, through land exchange, poorly located farmers living within the forest.

Under this procedure any land-owning farmer in an isolated spot where it is difficult to get to market, school, and stores, or where the soil has proved unfit for agriculture, may offer his lands in exchange for lands of equal value in a forest-farm community.

Many benefits are derived from these exchanges. The farmer and his family benefit directly, and county taxes are lowered because of the reduced costs of schools, roads, and relief. The standard of living is improved in the forest, and nonagricultural land is returned to its best use.

OTHER SERVICES

A complete list of uses of the Chippewa is given at the end of this booklet. Most of them are of decided economic advantage to forest residents. In addition to all the people indirectly dependent upon the forest for their jobs or business, nearly 2,000 families on the Chippewa have one or more members employed in work on the forest.

Second only to the preservation of the natural resources of land, timber,

and water for the benefit of all the people is the Forest Service function of providing for the employment and welfare of the people who live within the national forests.

FUN ON THE FOREST

Not the least of the Chippewa's services is providing recreation. More people come each summer to the pine-scented fragrance of this forest. They come to hunt and fish, to swim and canoe, to cook and camp far from the dust and confusion of the cities.

Twenty-three camp and picnic grounds are scattered through the forest for the use of these visitors. Campgrounds offer tent sites, tables, parking space, fireplaces, and sanitary facilities. Picnic grounds, in addition, have shelters, bathhouses, and beaches. More conventional accommodations are offered in 360 resorts in and near the forest.

Many of the special use permits on the Chippewa are issued for the promotion of recreation. More than 150 summer-home permits are in effect, as well as permits for resorts, dockage sites, and commercially run camps for boys and girls.



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More than 150 summer homes have been built under permit within the Chippewa.



F-401124

Visiting in front of a dormitory cabin in Ruby Lake Organization Camp. Three separate units of dormitory cabins accommodate "mixed" groups.

The Forest Service Organization Camp at Ruby Lake in the Marcel District is available for rent to Boy Scouts, Girl Scouts, 4-H Clubs, and other organized groups. It is booked for the season by the end of April.

Visitors mean income to local people from food, lodging, souvenirs, rental of boats, and various other services.

The Chippewa has been a mecca for summer vacationists since 1910. In 1938 the Shingobee Winter Sports Area at Walker was built by the Forest Service to supply an increasing demand for winter sports facilities. Shingobee's possibilities for tobogganing, skiing, and snowshoeing attract people to the northland in what would otherwise be an off-season for tourists.

Three railroads serve numerous points in and near the forest. Bus lines maintain daily schedules from Duluth and Minneapolis. United States Highways Nos. 2 and 371 traverse the Chippewa, and State Routes 34, 6, 46, and 38 afford easy access to all parts of it. In addition, more than 600 miles of Forest Service trails branch out from this network to provide scenic drives and hikes.

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F-401133

Chief Little White Cloud, a Chippewa Indian, in front of his birch bark tepee on Star Island, Cass Lake.

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F-401110

All kinds of watercraft ply the Chippewa's numerous lakes—rowboats, canoes, motorboats, and sailboats.



F-392454

Entrance to Shingobee Winter Sports Area, 5 miles southwest of Walker on State Route 34.

WILDLIFE RESOURCES

BIG GAME

About 25,000 whitetail deer inhabit the Chippewa National Forest. Hunting is opened each even-numbered year, with a limit of one animal to a hunter. During 1940 the take for 17,000 hunters was approximately 9,000.

The regular season extends from November 15 to 25, inclusive, and during 1940 a special bow and arrow season was established in Itasca County from November 1 to 5.

There is no limit, of course, on the hunting season for camera fans, and Chippewa deer are of great interest to them. The fawns, single or twins, are born during May and throughout the summer are usually seen with the mother. They are frequently glimpsed in the evening along roadsides or the edges of fields.

Black bear are less frequently seen, although 150 are counted among the forest's four-legged occupants. The hunting season and take for bear are the same as for deer.

Rarely seen is the moose. It is estimated there are about 20 on the forest.

SMALL AND UPLAND GAME

There is a great abundance of snowshoe hare on the Chippewa, 100,000 being the estimated number. There are few cottontail rabbits, and about 500 gray squirrels.

Ruffed grouse are plentiful, and sharp-tailed grouse is increasing, the present populations of each being 150,000 and 5,000, respectively. Two thousand prairie chickens and 500 pheasants complete the census of upland game.

FUR BEARERS AND PREDATORS

Not many wolves or red foxes are to be found on the Chippewa. Coyote and wildcat are more common, but all are easily controlled by trapping and hunting.

The dams of a thousand beaver may be seen throughout the forest, and the marshes and flowage areas are dotted with the houses of muskrats. Comparable to the muskrat as a valuable fur bearer is the skunk, also common on the Chippewa. Weasels are plentiful, but raccoons and otters are seldom seen.



Favorite subject of picture hunters.

fall hunting season, when they are migrating southward and hunters' guns await them almost all along their route. These refuges are not extensive enough to interfere with good hunting, however, as evidenced by the estimated hunting take of 70,000 in 1940. As might be expected, the greater part of this kill is among migratory fowl.

FISH

Thousands of visitors come to the Chippewa each summer to enjoy the excellent fishing in Leech, Winnibigoshish, Cass, Bowstring, Sand, Cut Foot Sioux, and many smaller lakes, where fine catches of wall-eyed pike, great northern pike, largemouth and smallmouth bass, and crappies may be made.

FORESTS FOR THE FUTURE

Chippewa timber is cut to provide the greatest certainty of natural reproduction. If adverse factors prevent natural reproduction in an area,

WATERFOWL

The Chippewa, with its many lakes and extensive flowage areas, is host to many thousands of ducks during the nesting season and in the spring and fall when the ducks travel the great Mississippi flyway.

It is estimated that the number of waterfowl, with their young, which inhabit the Chippewa during the summer season is approaching 45,000. They include about 20,000 mallard, 7,000 golden-eye, 10,000 blue-winged teal, 4,000 ringneck, and 3,000 baldpate. Among other, less abundant species are the black duck, gadwall, pintail, green-winged teal, redhead, lesser scaup, ruddy duck, and beaded Merganser.

The Chippewa has 7 waterfowl refuges which make welcome resting places for the ducks during the



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Local ducks plus the northern duck flight make good hunting on the Chippewa. Many resorts furnish duck boats.

restocking is accomplished by a full or partial planting with the species of tree best adapted to the site.

The policy of the Chippewa is to harvest the timber as it matures, without reducing the acreage in growing stands and, through this harvesting, to increase the thrift and value of the trees left standing. It is a policy of partial cutting, leaving all trees below a certain size to grow and leaving certain larger trees to scatter seed.

The Chippewa has approximately 100,000 acres of land supporting merchantable timber and 300,000 acres of well stocked young stands. This timber has an estimated volume of 571,476,000 board feet and is valued at \$1,725,000. It increases approximately 20,000,000 board feet each year through growth, and each year a volume equal to the growth is harvested by timber sales to private operators.

This growth is like the annual interest on an investment. It makes it possible to use the forest and yet make it last forever.

STAND IMPROVEMENT

In addition to the merchantable timber, there are large areas on the Chippewa supporting young reproduction, saplings, and pole-sized stands. These young stands have been surveyed and, in many cases, given timber stand improvement treatments. Side branches are pruned to improve the



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Selective cutting leaves a well-stocked, thrifty residual stand and favors establishment of pine seedlings which when mature will yield additional crops.

quality of the lumber eventually cut; dense stands are thinned to allow faster growth of the best formed and thriftiest trees; and valuable trees are liberated from overtopping by trees of lower value.

REFORESTATION

Clear cutting in the early days and the forest fires that followed left large areas practically denuded of tree growth. The Chippewa National Forest is reforesting approximately 5,500 acres of such land each year.

At the end of 1940 a total of 40,000 acres of barren lands and lands supporting brush and tree species of low value had been planted with jack, red, and white pines, and white spruce. These plantations will provide a valuable addition to the timbered areas on the Chippewa if forest users and visitors cooperate in protecting them from fire.

The Chippewa has had the help of the Civilian Conservation Corps and the Works Progress Administration in its reforestation program. Many of the CCC enrollees and all of the WPA workers are from forest communities. A number of other local people obtain seasonal employment through the planting work.

TREES FOR PLANTING

The Cass Lake and Lydick Nurseries at Cass Lake supply all the seedlings used on the Chippewa National Forest, shipping about 7,500,000 little trees a year—jack, red, and white pine, tamarack, spruce, and cedar. The Lydick Nursery is the larger of the two, covering 70 acres of land directly behind the supervisor's headquarters:

A trip to this nursery is a thrilling experience for anyone interested in green and growing things. Row upon row of miniature trees stretch out with the precision of military lines. One, two, and three inches tall, they stand close together, replete with sun and food and water.

Scientific care is given the nursery. The land is worked on a 4-year rotation basis, each section lying fallow for 2 years before seeding. Ferti-



F-401065

From seedlings to sawlogs—weeding red pine seedbeds in the Cass Lake Nursery. In the background are piles of lumber stacked for drying around a sawmill and box factory.

lizer and crops of rye and soy beans restore its strength during this rest period.

Seeds are taken from pine cones at the Cass Lake extractory and samples sent to the Lake States Forest Experiment Station at St. Paul for germination tests. The nurseryman then determines how much seed he must plant in order to get 35 jack pine seedlings (or 55 seedlings of the other pines and of spruce) per square foot. A system of water pipes extends the length and width of the nursery, and a cold storage building is available to hold stock lifted to be sent to the field.

The hardy jack pines, which outnumber all other species grown here, are sent to the field for planting at the age of 2 years. They are then from 4 to 8 inches high.

Red and white pine and spruce are kept in the nursery for 4 years, 2 years in seed beds and 2 years in transplant beds, where they stretch up to 8 or 10 inches in height.

The little trees are packed in damp moss for shipment to various parts of the Chippewa. Forest giants of the future, many of them will outlive the boys and men who plant them. Perhaps no other phase of Forest Service work emphasizes quite so clearly the long range view of the forester, planning and planting for generations yet unborn.

EXPERIMENTAL FORESTS

Two experimental forests were established on the Chippewa in 1923 for study of various phases of logging, planting, growth, and cultural operations. The Pike Bay Experimental Forest comprises 3,500 acres on the east side of Pike Bay, the Cut Foot Sioux 3,000 acres west of State Route No. 46 and north of Cut Foot Sioux Lake.

NATURAL AREA

A third area has been set aside as the Pine Point Natural Area, in which no improvements will be made. This area lies within 10 sections of virgin red pine permanently reserved from cutting, and nearly 600 acres of it are covered with virgin red and jack pine. The remaining 500 acres are meadowland and aspen growth.

DEFENSE AGAINST FIRES

Half the battle in fire fighting is waged before a smoke is sighted. It consists of thorough, systematic preparation.

Many miles of truck trails and fireways have been built on the Chippewa to provide easy access to fires. Ranger headquarters are strategically

located and equipped with modern fire-fighting apparatus. The CCC camps have well-trained, well-equipped fire suppression crews.

The speedy detection of fires is assured by 23 lookout towers with 8-mile visibility in normal weather. Airplane observation and ground patrol supplement the work of the towermen during periods of low visibility.

Ranger stations, camps, and towers are connected by metallic circuit telephone lines which facilitate speedy reports of fires and unified suppression action. Short wave radio supplements the telephone system during the fire season.

The Chippewa has a good fire record. Credit for this record can be traced to an adequately organized fire system, which shares honors with the people who visit and use this forest. They realize that everybody loses when a forest burns, and they practice care with fire.

The following rules, practiced by experienced woodsmen, are commended to the attention of all newcomers to the Chippewa:

MATCHES.—Be sure your match is out. Break it in two before throwing it away.

SMOKING.—Smoke only while stopping in a safe place clear of all inflammable material.

MAKING CAMP.—Before building a fire scrape away all inflammable material from a spot 5 feet in diameter. Dig a hole in the center and in it build your campfire. Keep your fire small. Never build it against trees or logs or near brush.

BREAKING CAMP.—Never break camp until your fire is out—dead out. Always leave a clean camp.

HOW TO PUT OUT A CAMPFIRE.—Stir the coals while soaking them with water. Turn small sticks and drench both sides. Wet the ground around the fire. Be sure the last spark is dead.



Eyes of the forest.

F-365351

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F-401094

Radio set installed in the glove compartment of a small fire truck with an outside aerial makes possible radio communication while the truck is en route to a forest fire.



F-37260

Large tanker to reinforce the initial attack crew.

TOBACCO.—Be sure that pipe ashes and cigar or cigarette butts are dead before throwing them away. Never throw them into brush, leaves, or needles.

BRUSH BURNING.—Never burn slash or brush in windy weather or while there is the slightest danger that the fire will get away.

IN CASE OF FIRE.—Extinguish any small fires you can. Report others to the nearest ranger or to the telephone operator.

TREES OF THE CHIPPEWA

Though primarily a coniferous forest, the Chippewa contains both pines and hardwoods. A few of the more important trees are described here for the convenience of forest visitors.

RED PINE (*Pinus resinosa*).—This tree, also commonly known as Norway pine, is one of the most important trees on the Chippewa, originally comprising the bulk of timber on the forest. It is a large, stately tree with a rounded crown. The needles are in clusters of two, 4 to 6 inches long, and lustrous dark green in color. The cones are about 2 inches long, and

the thick reddish-brown bark is shallowly fissured into broad, flat ridges. It is used for lumber, piling, mine timbers, and cabin logs.

EASTERN WHITE PINE (*Pinus strobus*).—Once very abundant on the Chippewa, the valuable white pine was one of the first trees to be cut out. It is now found mainly in mixture with other species, a large tree often reaching 150 feet in height, with a trunk diameter of 2 to 4 feet. Its pale, blue-green needles in clusters of five are 3 to 5 inches long and give the effect of plumes. Cones are from 4 to 7 inches in length, and the smooth, dark gray bark of the young trees becomes deeply fissured as the trees grow older. It is used for lumber.

JACK PINE (*Pinus banksiana*).—After the original forest was cut over, jack pine became one of the most important tree species on the area. Its ability to reproduce itself on cut-over land has increased its abundance, and since it is fast growing and matures at an early age, it is commercially valuable. On good sites it may reach a height of 80 feet. The needles, in clusters of two, are about an inch long, the cones from $1\frac{1}{2}$ to 2 inches. Its chief use is for pulpwood, but it is also used for rough lumber and mine timbers.

WHITE SPRUCE (*Picea glauca*).—From 50 to 60 feet high, with an open, pyramidal crown, the white spruce is usually found on the edges of swamps. Its dark blue-green needles are about $\frac{3}{4}$ of an inch long and are arranged spirally. The cones are slender and 1 to 2 inches in length. It is used for pulpwood and lumber.

BLACK SPRUCE (*Picea mariana*).—Smaller than the white spruce, the black spruce is normally found in swamps. Its needles are also arranged spirally, but are shorter than those of white spruce, ranging from one-eighth to three-eighths of an inch. Its cones are nearly round and about an inch long.

BALSAM FIR (*Abies balsamea*).—This is a slender tree 40 to 60 feet high with a symmetrical, open crown wide at the base and tapering regularly upward. The needles are from $\frac{1}{2}$ to $1\frac{1}{4}$ inches long; fragrant; lustrous dark green above, and pale beneath. It is used for pulpwood, and, like the spruces, is familiar to many forest visitors because of its popularity as a Christmas tree.

TAMARACK (*Larix laricina*).—Tamarack, or eastern larch, was originally an important swamp species, but infestations of the larch sawfly killed off large tracts of it until but a small percentage of the original type remains. Its 1-inch needles are clustered on short lateral branchlets, and its cones are from one-half to three-fourths of an inch long. Tamarack is the only conifer native to this region that sheds its needles in the fall. It is used for mine props and fuelwood.

NORTHERN WHITE-CEDAR—EASTERN ARBORVITAE (*Thuja occidentalis*)—A swamp species chiefly valuable for telephone poles and fence posts. Its needles are one-eighth to one-fourth of an inch long, yellow-green, and very aromatic. Its cones are about one-half inch long, pale brown, and composed of 8 to 12 loose scales.

QUAKING ASPEN (*Populus tremuloides*).—One of the most widely distributed trees in the forest. Its leaves are long, broad, finely toothed, and arranged alternately. Its thin, smooth bark is yellowish or greenish and is often roughened with darker horizontal bands. When growing on good soil, aspen is commercially important for pulpwood, box bolts, match stock, clothes pins, and lumber. It does not reach merchantable size on poor soil except for fuelwood. Large areas of low quality aspen are, however, a potential source of cellulose.

MIXED HARDWOODS.—These stands, found on the heavier soils, are usually made up of basswood, sugar maple, aspen, paper birch, bur oak, elm, black ash, northern red oak, and yellow birch. They are of value as a source of veneer lumber, oak and birch flooring, lumber for houses and boats, railroad ties, and fuelwood.

FLOWERS AND SMALL PLANTS

Blueberry, sweetfern, wintergreen, and hazel form the ground cover in pine-timbered areas, while leatherwood, gooseberry, strawberry, and hazel brush are found in the hardwood stands. The blossoms of wild cherry and plum trees give color to the Chippewa in the spring, and the pale green of the birches is often outlined against the darker green of the pines.

Trailing arbutus is abundant in the pine areas during May. Trilliums; anemones; yellow, white, and purple violets; columbine; yellow bells; and

The Chippewa National Forest covers 1,312,824 acres of level and gently rolling land in north central Minnesota. Two hundred and thirty miles from the Twin Cities, it is within 24 hours' travel of 15,000,000 people. The forest is divided into 7 districts with a ranger in charge of each district. Over all is the forest supervisor, with headquarters at Cass Lake on the western edge of the Chippewa.



F-389272

Avenue of Pines, one of many beautiful drives through the Chippewa Forest.

dutchmans-breeches are among the other flowers which carpet the forest floor of the Chippewa.

CAMP AND PICNIC GROUNDS

Birches Camp and Picnic Grounds on the east shore of Lake Winnibigoshish.
Caribou Lake Camp and Picnic Grounds on Caribou Lake.

Farm Camp, camp and picnic grounds, 7 miles northeast of Marcell.

Idlewild Camp and Picnic Grounds, 7 miles northeast of Bena.

Lake Thirteen Camp and Picnic Grounds, on Lake Thirteen.

Knutson Dam Camp and Picnic Grounds on the northeast corner of Cass Lake.

Mable Lake Camp and Picnic Grounds on Mable Lake.

Rush Island Lake Camp and Picnic Grounds on Rush Island Lake.

Seelye Point Camp and Picnic Grounds on Cut Foot Sioux Lake.

Six Mile Lake Camp and Picnic Grounds on Six Mile Lake.

Squaw Point Camp and Picnic Grounds on Steamboat Bay of Leech Lake.

Star Island Camp and Picnic Grounds on Cass Lake.

Stony Point Camp and Picnic Grounds on Leech Lake.
Walker Bay Camp and Picnic Grounds on Walker Bay of Leech Lake.
Webcstr Lake Picnic Ground on Webster Lake.
Willow Lake Campground, camp and picnic grounds on Willow Lake.
Williams Narrows Camp and Picnic Grounds on Cut Foot Sioux Lake.
Winnic Dam Camp and Picnic Grounds on the eastern tip of Winnibigoshish.

WATER CONTROL AND WATERFOWL DAMS

In addition to the Knutson Dam and Winnibigoshish Dam already mentioned, water-control and waterfowl dams are to be found at Federal Dam on Leech Lake; Ball Club Dam on the lake of that name, just north of United States Highway No. 2; Dry Creek Dam near Seelye Bay; Pigeon River Dam, near the Cut Foot Sioux Ranger Station; Rabideau Dam near Blackduck; Portage Dam on Portage Lake; and Six Mile Dam on Six Mile Lake.



F-401105

Tent under the pines at Caribou Lake Camp and Picnic Ground.

Chippewa National Forest · Minnesota



F-401044

Trucks hauling logs from the Cass Lake District to mills in Bemidji stop at the ranger station while the ranger scales the load.



F-401070

Large quantities of Chippewa timber go into box boards.

FOREST USES

FREE USES, NO PERMIT REQUIRED.—Camping, picnicking, swimming, hunting, fishing, berry picking, wild ricing, skiing, tobogganing, skating, boating, hiking.

FREE USES OBTAINED UNDER A PERMIT FROM THE FOREST RANGER.—*For public organizations.*—Church sites, fish hatchery sites, school sites, dump grounds, cemetery sites, telephone rights-of-way, road and bridge rights-of-way, power line rights-of-way, fire line rights-of-way, cabin logs, bridge timbers, fuelwood, burning permits, sand, gravel and stone.

For private individuals.—Fuelwood for rural residents, sand and gravel, peat and marl, fence posts for farms, dead and down sawlog material for farmers, camps and sawmill sites for loggers, burning permits.

SPECIAL USES FOR WHICH A PERMIT IS REQUIRED AND A CHARGE MADE.—
Pasture lands, cultivated lands, fur farm sites, hay meadow land, railroad-rights-of-way, recreational camps, recreational resorts, summer-home sites, telephone and power line rights-of-way, sawmill sites, wharf, boat-houses, and boat landings, timber stumpage for logs, posts, poles, ties, pulpwood, box bolts, fuelwood, cabin logs, mine timbers, and piling, maple sugar, Christmas trees.

The Cass Lake, Bena, Blackduck, Marcell, Remer, and Walker Ranger Stations and the headquarters of the Dora Lake subdistrict are located in or near towns of the same names. The Cut Foot Sioux Station is near Little Cut Foot Sioux Lake.

RANGER DISTRICTS
CHIPPEWA NATIONAL FOREST
MINNESOTA





